

Preliminary Environmental Assessment

DOI-BLM-NV-W030-2010-0001-EA

Calico Mountains Complex -

Black Rock Range East (NV209), Black Rock Range West (NV227),
Calico Mountains (NV222), Granite Range (NV221), and Warm
Springs Canyon (NV226) Herd Management Areas

Wild Horse Capture Plan



Calico Mountains wild horse band, June 2009.

October 2009

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1.0 INTRODUCTION

Wild horses and burros are managed today in designated habitat called Herd Management Areas (HMAs). An Appropriate Management Level (AML) is established for each HMA. The AML is an estimate of wild horses and/or burros the habitat can support while maintaining a thriving natural ecological balance with other resource values and uses. Population and vegetative monitoring is done to ensure that animals and rangelands remain healthy. AMLs are usually stated as a population range to allow for the periodic removal of animals (to the low range) and subsequent population growth (to the high range) between removals (gathers).



Photo 1. Winter time on the Black Rock Range West HMA, 2/09.



Photo 2. New spring foal, Calico Mountains HMA, 6/09.

This Environmental Assessment (EA) analyzes the environmental impacts associated with the proposal to capture 2,476-2,787 wild horses, release up to 264, and remove 2,476-2,523 excess wild horses from the Calico Mountains Complex (Complex) which includes the following Herd Management Area (HMAs):

- ❑ Black Rock Range East
- ❑ Black Rock Range West
- ❑ Calico Mountains
- ❑ Granite Range
- ❑ Warm Springs Canyon

Wild horses from these HMAs would be gathered as a Complex or unit as herds move and interact between them. The potential gather area would extend beyond the HMA boundaries as displayed in Map 1 as wild horses have moved outside of HMAs in search of forage, water and space. Burros are only found in the Warm Springs Canyon HMA and would not be gathered or removed as the current population estimate is within the established AML for burros in that HMA. Adjustment of the current AMLs will also not be analyzed in this EA.

The gather would begin in about December 2009 and is expected to take about three months due to potential winter weather delays and the logistics involved in moving traps and holding sites numerous times. Winter gathers in this area are preferred as foals are older and wild horses are

down off of the highest elevations, reducing the travel distance to trap site locations. The proposed gather is needed to achieve and maintain the established AML and prevent further range deterioration resulting from the current overpopulation of wild horses within the affected HMAs.

The Calico Mountain Complex comprises a total of about 542,100 acres and is located about 5-66 miles north and east of Gerlach, in northwest Nevada within Humboldt and Washoe counties. A portion of the area is located within the Black Rock Desert High Rock Canyon Emigrant Trails National Conservation Area (NCA). Refer to Map 1.

This EA contains the site-specific analysis of potential impacts that could result with the implementation of the Proposed Action, Alternative or No Action. The EA ensures compliance with the National Environmental Policy Act (NEPA). Based on the following analysis of potential environmental consequences, a determination can be made whether to prepare an Environmental Impact Statement (EIS) or issue a "Finding of No Significant Impact" (FONSI). A FONSI documents why implementation of the selected alternative will not result in environmental impacts that significantly affect the quality of the human environment.

1.1 Background Information

The current combined AML for wild horses is established as a range of 572-952 wild horses. Managing wild horse populations within this number is expected to assure a thriving natural ecological balance and multiple-use relationship within the Calico Mountains Complex. A direct count census was conducted in September 2009 showing a present population estimate of 3055 wild horses.

The last gather occurred in the winter of 2004-2005 when 2,033 wild horses were gathered, 1,623 removed, and 410 released back to the range. Two hundred and thirty-nine mares were treated with a Porcine Zona Pellucida (PZP-22) vaccine (i.e., fertility control agent) and branded for future identification. Following the gather, an estimated 575 wild horses remained in the HMA which was the low combined range of the AML.

However, a helicopter aerial population survey completed in March 2008 resulted in a direct count of 2,067 head, including nine burros. This data suggests an average annual growth rate of over 50% which is unrealistic. Wild horse herds in this area generally increase between 20-30% annually. Instead, this data suggests the post gather population estimate was substantially less than the actual populations. This is likely attributable to two factors: (1) census data used prior to the 2004-2005 gather was incomplete due to poor weather conditions and the population estimate was lower than actual, and (2) because wild horses range widely in this area, they may have moved out of the area during the gather operation.

The current estimated population of 3,095 wild horses for the Calico Mountains Complex is based on current modeling and confirmed with an aerial census conducted in September 2009. This estimate is based upon survey results projected using historic growth rates for each HMA (20-27%) and include this year's foal crop. The current population is about 5.5 times the low range of the AML (572 head) or about three times over the carrying capacity or high range AML of 952 head.

The current U.S. Drought Monitor classifies northwest Nevada as severe to abnormally dry (<http://drought.unl.edu/dm>, July 28, 2009). The U.S. Seasonal Drought Outlook indicates drought in northern Nevada is expected to persist (valid July 16 through October, 2009). Results of drought conditions is evident throughout the Complex with low forage production in some areas and decreased water flows, although spotty June rains did help forage production and several dirt reservoirs caught some runoff.

Recent monitoring studies and observations in the Calico Complex indicate that moderate and heavy utilization has occurred in the upland habitats and in many lentic and lotic riparian areas (studies available for review at the Winnemucca Field Office). This along with the continued drought confirms the established management range for the wild horse and burro population in the Calico Complex is still appropriate.



Photo 3.



Photo 4.

Analysis of the above information indicates the current AML of 572-952 wild horses in the Calico Mountains Complex is appropriate and that excess wild horses are present and require immediate removal.

1.2 Purpose and Need

The purpose of the Proposed Action is to capture 2,476-2,787 wild horses, release up to 264, and remove 2,476-2,523 excess animals of the estimated 3,095 wild horses estimated in the Complex. This would achieve a remaining population within the AML range and protect rangeland resources from the deterioration associated with the current overpopulation of wild horses as authorized under Section 3(b) (2) of the *Wild Free-Roaming Horses and Burros Act of 1971* (1971 WFRHBA) and Section 302(b) of the Federal Land Management and Policy Act of 1976. If the gather efficiency is sufficient (i.e., more than 2,523 horses are gathered), fertility control and adjustment of the sex ratio to favor males through the selection of release horses would be applied to decrease the annual population growth.

Population modeling (Appendix C-Graph 1) shows that at 80% gather efficiency (i.e., 80% of the estimated population of 3,095 or 2,476 horses gathered) not enough wild horses could be gathered to implement fertility control or release horses back into the herds and achieve the low range AML. However, if the gather efficiency is 90% (i.e., 90% of the estimated population of

3,095 or 2,787 horses gathered), then some selective removal and fertility treatment could occur (Appendix C-Graph 2) and the low range AML be achieved. The gather would also benefit the health of wild horses remaining in the Complex by reducing competition for forage and water.

Implementation of the Proposed Action is needed at this time to prevent deterioration of animal health and reduce impacts to rangeland and wildlife resources from overgrazing by wild horses. This gather would reduce the current wild horse population to the established appropriate management levels to protect horse health and sustainability, support significant progress toward achievement of the Sierra Front-Northwest Great Basin Standards for Rangeland Health; and, move toward a thriving natural ecological balance between wild horse populations, wildlife, vegetation, riparian-wetland resources, water resources, and domestic livestock.

1.3 Land Use Plan Conformance

The Proposed Action and other alternatives considered are in conformance with the Record of Decisions (RODs) for the *Paradise-Denio and Sonoma-Gerlach Resource Area Management Framework Plans (MFPs)* approved on July 9th, 1982. Applicable decisions and goals are: to manage sustainable populations of wild horses, maintain a thriving ecological balance, and to maintain free-roaming behavior.

The Proposed Action is also in conformance with the July 2004 ROD for the *Black Rock Desert High Rock Canyon Emigrant Trails NCA Resource Management Plan (RMP)*. Applicable decisions are:

- ☐ **WHB-1:** Retain referenced HMAs (Black Rock Range East, Black Rock Range West, Calico Mountains, Warm Springs Canyon, and Granite Range) and manage wild horse or burro populations consistent with plan objectives.
- ☐ **WHB-3:** Contiguous HMAs with documented reproductive interaction will be managed as complexes to enable better management of genetic traits for the population and to improve coordination of monitoring and gathering.
- ☐ **WHB-5:** Horses and burros will be gathered from the HMAs to maintain horses and burros within the AML as funding permits. Aircraft will continue to be used for the management and, when necessary, removal of wild horses and burros. Gather activities will be scheduled to avoid high visitor use periods whenever possible.
- ☐ **WHB-6:** Gathers in Wilderness will continue to be conducted by herding the animals by helicopter or on horseback to temporary corrals, generally located outside of Wilderness. No landing of aircraft will occur in Wilderness Areas except for emergency purposes, and no motorized vehicles will be used in Wilderness in association with the gather operations unless such use was consistent with the minimum tool requirement for management of Wilderness.

1.4 Relationship to Laws, Regulations, and Other Plans

Statutes and Regulations

The Proposed Action and other action alternatives are in conformance with the *Wild Free-Roaming Horses and Burros Act of 1971* (PL 92-195, as amended) and applicable regulations at 43 CFR 4700 and policies. Included are:

- ☐ **43 CFR 4710.4:** Management of wild horses and burros shall be undertaken with limiting the animals' distribution to herd areas. Management shall be at the minimum feasible level necessary to attain the objectives identified in approved land use plans and herd management area plans.
- ☐ **43 CFR 4720.1:** Upon examination of current information and a determination by the authorized officer that an excess of wild horses or burros exists, the authorized officer shall remove the excess animals immediately.

Other Plans

The Proposed Action and other action alternatives are in conformance with Biological Opinions and Recovery Plans for Threatened and Endangered (T&E) species, including:

- ☐ *Biological Opinion for the 2003 through 2013 Livestock grazing System for the Soldier Meadows Allotment, Humboldt County, Nevada, August 14, 2003.*
- ☐ *Biological Opinion for the 2003 through 2013 Livestock Grazing System for the Paiute Meadows Allotment, Humboldt County, Nevada, June 13, 2003.*
- ☐ *Recovery Plan for the Rare Species of Soldier Meadows, 1997.*
- ☐ *Lahontan Cutthroat Trout Recovery Plan, 1995.*

The AML is established as a population range of 586-976 wild horses and burros (Table 1). Allocations of available forage to wildlife, domestic livestock and wild horses or burros within the Complex were made following in-depth analysis of resource monitoring data and issuance of Final Multiple Use Decisions (FMUDs). Any adjustments to initial AMLs established in FMUDs were made pending further in-depth site-specific environmental analysis and decision issuance.

Table 1: Calico Mountains Complex - AML Establishment Summary

HMA	Allotment	Decision Type/Date	AML
Black Rock Range East	Soldier Meadows Pine Forest	FMUD – 1/24/94 FMUD – 09/30/05	56-93 H 0
Black Rock Range West	Soldier Meadows	FMUD – 1/24/94 EA# NV-020-00-27	56-93 H
Calico Mountains	Buffalo Hills Leadville Soldier Meadows	FMUD – 2/9/93 FMUD – 1/19/94 FMUD – 1/24/94 EA# NV-020-03-09	200-333 H
Granite Range	Buffalo Hills	FMUD – 2/9/93 EA# NV-020-05-02	155-285 H

HMA	Allotment	Decision Type/Date	AML
Warm Springs Canyon	Soldier Meadows	FMUD – 1/24/94 EA# NV-020-03-09	105-175 H; 14-24 B
TOTAL			586-976

1.5 Conformance with Land Health Standards

HMA within the Complex has not been assessed for conformance with Standards for Rangeland Health as developed in consultation with the Sierra Front-Northwestern Great Basin Resource Advisory Council (RAC). However, some riparian assessments have been conducted prior to 2003. Utilization monitoring and trend data indicates excess wild horse use is contributing to the Riparian/Wetland and Plant and Animal Habitat Standards not being met. The Proposed Action is consistent with making significant progress towards or meeting Rangeland Health Standards and conforms to the recommendations presented in the March 2007 *Standards and Guidelines for Management of Wild Horses and Burros of the Sierra Front-Northwest Great Basin Area*.

1.6 Decision to be Made

Under the 1971 WFRHBA, the authorized officer has the authority to determine whether appropriate management levels (AMLs) should be achieved by the removal of excess animals, or other options (such as sterilization or natural controls on population levels). Consistent with this authority, the authorized officer will select the population control method(s) to be implemented beginning in about December 2009 to achieve and maintain a healthy wild horse population within the appropriate management level that is in balance with the productive capacity of the habitat and other multiple uses.

1.7 Scoping and Identification of Issues

Issues identified during routine business conducted with Resource Advisory Councils, Nevada Department of Wildlife, US Fish & Wildlife Service, livestock operators and others, underscores the need for BLM to maintain wild horse and burro populations within the appropriate management level (AML). Consultation between the BLM, State of Nevada Commission for the Preservation of Wild Horses and the Sierra Club was conducted in November 2008. These groups toured the area proposed for the gather and jointly concurred that the gather was needed. The conclusion of the group was that the gather was needed to protect the natural resources as well as the wild horses.

The following issues have been identified:

1. A need to implement different or additional population control methods in order to maintain population size within AML over the long-term. Measurement indicators for this issue include:
 - ☐ Projected average annual growth rate/expected effectiveness of proposed population control methods (WinEquus population modeling);
 - ☐ Projected gather frequency;
 - ☐ Projected number of excess animals to be removed and placed in the adoption, sale, and short or long term holding pipelines over the next 10 years.

2. Impacts to vegetation/soils, riparian/wetland, and cultural resources. Measurement indicators for this issue include:
 - ☐ Expected forage utilization;
 - ☐ Potential impacts to vegetation/soils and riparian/wetland resources.
3. Impacts to wildlife, migratory birds, and threatened, endangered and special status species and their habitat. Measurement indicators for this issue include:
 - ☐ Potential for short-term displacement, trampling or disturbance;
 - ☐ Potential competition for forage and water over time.
4. Impacts to individual wild horses and the herd. Measurement indicators for this issue include:
 - ☐ Potential impacts to animal health and condition;
 - ☐ Expected impacts to individual wild horses and herd social structure from future gather operations (handling stress);
 - ☐ Potential effects to genetic diversity.

2.0 PROPOSED ACTION AND ALTERNATIVES

This section of the EA describes the Proposed Action and alternatives, including any that were considered but eliminated from detailed analysis. Alternatives analyzed in detail include the following:

- ✓ **Alternative 1: Proposed Action:** Removal, Fertility Control, & 60% Male Sex Ratio
- ✓ **Alternative 2:** Removal Only
- ✓ **Alternative 3: No Action** – Defer Gather and Removal

The action alternatives were developed to meet the Purpose and Need and respond to the identified issues. Few management options exist as the current wild horse population is so far over AML that it is not expected that enough horses can be gathered to implement management actions such as fertility control or adjusting the sex ratio. However, fertility control and sex ratio adjustments would occur if there is an opportunity to do so. The action alternatives are designed to meet the need to remove excess wild horses in order to protect the range from deterioration associated with overpopulation. Although the No Action alternative does not comply with the 1971 WFRHBA (as amended), nor does it meet the purpose and need for action, it is included as a basis for comparison with the action alternatives.

2.1 Description of Alternatives Considered in Detail

2.1.1 Management Actions Common to Alternatives 1-2

- ☐ The wild horse gather would be scheduled to occur beginning in December 2009 and would be expected to take approximately three months to complete. Several factors such as animal

condition, herd health, weather conditions, or other considerations could result in adjustments to the schedule.

- ☐ Gather operations would be conducted in accordance with the Standard Operating Procedures (SOPs) described in the National Wild Horse Gather Contract. Appendix A outlines the SOPs currently in effect. The primary gather (capture) methods would be the helicopter drive method and helicopter assisted roping (from horseback).
- ☐ Gather operations in wilderness areas would be conducted by herding the animals by helicopter or on horseback to temporary corrals, generally located outside wilderness boundary. No landing of aircraft would occur in Wilderness Areas except for emergency purposes, and no motorized vehicles would be used in Wilderness in association with the gather operation unless such use is consistent with the minimum requirements for management of Wilderness and is preapproved by the authorized officer.
- ☐ Trap sites and holding facilities would be located in previously used trap sites and other disturbed areas (Map 1). Undisturbed areas identified as potential trap sites or holding facilities would be inventoried for cultural resources. If cultural resources are encountered, these locations would not be utilized unless they could be modified to avoid impacts to cultural resources. Trap sites and holding facilities would not be placed in known areas of Native American concern.
- ☐ Gathers activities would be scheduled to avoid high visitor use periods whenever possible.
- ☐ Data including sex and age distribution, reproduction, body condition class information (using the Henneke rating system), color, size and other information may also be recorded, along with the disposition of that animal (removed or released).
- ☐ Hair samples would be acquired on about 25-50 animals from each HMA to determine whether acceptable genetic diversity is being maintained (avoid inbreeding depression).
- ☐ An Animal and Plant Inspection Service (APHIS) or other licensed veterinarian may be on-site, as needed, to examine animals and make recommendations to BLM for care and treatment of wild horses.
- ☐ Decisions to humanely euthanize animals in field situations would be made in conformance with BLM policy (Washington Office Instruction Memorandum). Current policy reference: http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2009/IM_2009-041.html.
- ☐ Excess animals would be sent to Bureau facilities for adoption, sale, or long-term holding.
- ☐ Noxious weed monitoring at trap sites and temporary holding facilities would be conducted in the spring and summer of 2010 by BLM. Treatment would be provided, if necessary, following guidance from the Noxious Weed Control EA# NV-020-02-19.

- ❑ Existing monitoring including: forage condition and utilization, water availability, aerial population surveys and animal health would continue.
- ❑ A comprehensive post-gather aerial population survey would occur within 12 months following completion of the gather operation.

2.1.2 Alternative 1. Proposed Action: Removal, Fertility Control & 60% Male Sex Ratio

In addition to the actions described in Section 2.1.1, the Complex would be managed within a range of 572-952 wild horses and 14-24 wild burros as follows:

- 2,476 (80%) to 2,787 (90%) wild horses of the total estimated wild horse population (3,095 head) would be captured, up to 264 head (80 treated mares and 184 studs) would be released back onto the range, and 2,476 to 2,523 excess wild horses would be removed from the range to achieve the low range AML.

If the gather efficiency exceeds 80% (2,476 head) then the following management actions would be implemented to the degree possible while still achieving the low range AML:

- Mares selected for release, including those previously treated with fertility control, would be treated/retreated with a two-year Porcine Zona Pellucida (PZP-22) or similar vaccine and released back to the range. Immuno-contraceptive research would be conducted in accordance with the approved standard operating and post-treatment monitoring procedures (SOPs, Appendix B). Mares would be selected to maintain a diverse age structure, herd characteristics and conformation.
- Studs selected for release would be released to increase the post-gather sex ratio to approximately 60% studs in the remaining herds. Studs would be selected to maintain a diverse age structure, herd characteristics and conformation.
- Animals would be removed using a selective removal strategy to the extent possible. Selective removal criteria include:
 - (1) First Priority: Age Class - Five Years and Younger
 - (2) Second Priority: Age Class - Six to Fifteen Years Old
 - (3) Third Priority: Age Class Sixteen Years and Older
- Post-gather, every effort would be made to return released horses to the same general area from which they were gathered.

2.1.3 Alternative 2. Removal Only

In addition to the actions described in Section 2.1.1, the Complex would be managed as a range of 572-952 wild horses and 14-24 wild burros as follows:

- 2,476 (80%) to 2,523 (82%) wild horses of the total estimated wild horse population (3,095 head) would be captured and 2,476 to 2,523 excess wild horses would be removed. To achieve the low range AML, a minimum of 2,523 horses would need to be removed.

- A post-gather sex ratio of approximately 45-50% studs/50-55% mares would be maintained.

2.1.4 Alternative 3. No Action. Defer Gather and Removal

Under the No Action Alternative, the capture and removal of approximately 2,523 excess wild horses would not occur within the next year. There would be no additional management actions undertaken to control the size of the wild horse populations at this time.

2.1.5 Alternatives Considered but Dismissed from Detailed Analysis

Use of Bait and/or Water Trapping

An alternative considered but dismissed from detailed analysis was use of bait and/or water trapping as the primary gather method. This alternative was dismissed from detailed study for the following reasons: (1) the size of the area is too large to use this method and water is available from multiple area; (2) outside the HMA boundary, a large number of water sources are present on both private and public lands which would make it impractical to restrict wild horse access and effectively remove the animals without extending the time required to remove the horses. The expanded area and the extended time would result in an increase in gather cost.

Gather Every Two Years and Apply Two-Year PZP

Another alternative would be to gather the Complex wild horses every two years and apply two-year PZP (PZP-22) to breeding age mares. However, due to the size of the area and the complexity involved in gathering the wild horse population, and given that other reasonable management options exist, this alternative was dropped from detailed study.

Table 2: Comparison of Alternatives Considered in Detail

Item	Proposed Action (80% GE)	Proposed Action (90% GE)	Alternative 2	No Action Alternative
Impacts to Wild Horses				
Number of Horses Captured in Complex	2,476	2,787	2,476 - 2,523	0
Number of Horses Removed from Complex	2,476	2,523	2,476 – 2,523	0
Number of Horses Released back to Complex	0	up to 264	0	0
PZP Applied	No	Yes	No	No
Post-Gather Sex Ratio (approx)	45-50/50-55 males/females	50-60/40-50 males/females	45-50/50-55 males/females	45-50/50-55 males/females

Item	Proposed Action (80% GE)	Proposed Action (90% GE)	Alternative 2	No Action Alternative
Post-Gather Horse Population	<p>An estimated post-gather population of approximately 572 – 619 wild horses (.e. low range of AML) would remain under the action alternatives if a minimum gather efficiency of 80% is achieved and the pre-gather population estimate of 3,095 head is accurate.</p> <p>A post-gather aerial population survey flight would occur within 12 months to verify the post-gather estimate.</p>			<p>The current population of 3,095 animals would be expected to grow to 3,807 animals following the 2010 foaling season.</p>

3.0 THE AFFECTED ENVIRONMENT

This section of the EA briefly discusses the relevant components of the human environment which would be either affected or potentially affected by the Action Alternatives or No Action (refer to Tables 3 and 4 below). Direct impacts are those that result from the management actions while indirect impacts are those that exist once the management action has occurred.

3.1 General Description of the Affected Environment

The Complex comprises a total of about 542,100 HMA acres and is considered the primary gather area. It includes the Granite Range, Calico Mountains, Trough Mountain and Black Rock Range topographic features. It is bound on the east by the Black Rock Desert, on the north by the U.S. Fish & Wildlife Sheldon Antelope Refuge, on the west by adjacent HMAs administered by the Surprise Field Office in Cedarville, California and by the small town of Gerlach, Nevada on the south. However, due to wild horse movement outside of the Complex, the potential gather area may include additional areas outside the HMAs (see Map 1).

Elevations within the Complex range from 3,920 along the Black Rock Desert to 9,056 feet at Granite Peak. Climate within the Complex is characterized by warm dry days, cool nights and low yearly precipitation that range from 4 at lower elevations to approximately 16 inches at higher elevations. Most precipitation occurs as winter snow.

Vegetation varies from salt desert shrub communities at lower elevations to big sagebrush/bunch grass communities at higher elevations. Typical species at lower elevations include shadscale, bud sage, winterfat, black greasewood, squirreltail, and Sandberg's bluegrass. Species typical in higher elevations include low sagebrush, Wyoming big sagebrush, mountain big sagebrush, bitterbrush, rabbitbrush, Utah juniper, mountain mahogany, quaking aspen, needlegrass, blue bunch wheatgrass, basin wildrye, squirreltail, Indian paintbrush, and phlox. Historic wildfire scars occur throughout some portions of the Complex and mainly support cheat grass.

Numerous small perennial streams and springs occur throughout the Complex. The Calico Mountains, Warm Springs Canyon, and south Black Rock Range HMAs are most water limited due to scarcity of sites and low flows (photo 5). Livestock water developments (e.g., wells, troughs and dirt reservoirs) are important sources of water (photo 6) for wild horses as well.



Photo 5. Low flows and heavy wild horse use at Leadville meadow, Calico Mountains HMA, 8/08



Photo 6. Low spring flows at Jacob's spring trough, Warm Springs Canyon HMA, 7/09

3.2 Supplemental Authorities (Critical Environmental Elements of the Human Environment)

To comply with the National Environmental Policy Act, the following elements of the human environment are subject to requirements specified in statute, regulation or executive order and must be considered.

Table 3: Supplemental Authorities (Critical Elements of the Human Environment)

CRITICAL ELEMENTS	Present	Affected	Rationale
Air Quality	YES	NO	The proposed gather area is not within an area of non-attainment or areas where total suspended particulates exceed Nevada air quality standards. Areas of disturbance would be small and temporary.
Areas of Critical Environmental Concern (ACEC's)	NO	NO	Not present.
Cultural Resources	YES	YES	Trap sites and/or holding corrals would be placed in disturbed areas or inventoried prior to use. Locations would avoid cultural resource sites. However, other potential impacts are discussed below.
Environmental	NO	NO	Not present.

CRITICAL ELEMENTS	Present	Affected	Rationale
Justice			
Floodplains	NO	NO	Resource not present.
Invasive, Nonnative Species	YES	NO	Any noxious weeds or non-native invasive weeds would be avoided when establishing trap and/or holding facilities, and would not be driven through. Noxious weed monitoring at trap/holding sites would be conducted and applicable treatment of weeds would occur per Noxious Weed Control EA#NV-020-02-19 as needed.
Migratory Birds	YES	YES	Discussed below.
Native American Religious Concerns	YES	YES	Discussed below.
Prime or Unique Farmlands	NO	NO	Resource not present.
Threatened & Endangered Species	YES	YES	Discussed below.
Wastes, Hazardous or Solid	NO	NO	Not present.
Water Quality (Surface/Ground)	YES	YES	Discussed below.
Wetlands and Riparian Zones	YES	YES	Discussed below.
Wild and Scenic Rivers	NO	NO	Resource not present.
Wilderness	YES	YES	Discussed below.

Critical elements identified as present and potentially affected by the Action Alternatives (Alternatives 1-2) and/or the No Action Alternative include: Cultural Resources, Migratory Birds, Native American Religious Concerns, Threatened & Endangered Species, Water Quality,

Wetlands and Riparian Zones, and Wilderness. Additional discussion is included in the following sections.

3.2.1 Cultural Resources

A complete inventory of archeological sites in the Complex has not been completed; the gather area covers a wide area and includes a diversity of cultural resources from different time periods. Previous inventories have identified pre-historic sites (rock art sites, lithic scatters, isolated projectile points, etc.) in the area. Two of the gather areas are near some of the oldest recorded archaeological sites in the District, near extinct Lake Parman. The highest concentration of prehistoric sites is in association with permanent and intermittent water sources. There are several gather sites near Soldier Meadows, which is rich in both prehistoric and historic resources. Historic sites associated with ranching and mining are known to occur in this area as well. Segments of both the 1852 Nobles Route, a cutoff from the Applegate-Lassen Trail, and the Applegate-Lassen Trail itself (a National Historic Trail) pass near some of the gather sites. These trails were some of the most heavily traveled wagon routes for nineteenth century emigrants to California and Oregon.

3.2.2 Migratory Birds

Neo-tropical migrant bird species are those species that breed in the temperate portions of North America and winter in the tropics in either North or South America. They are protected by international treaty and additional emphasis on maintaining or improving their habitats is provided by Executive Order #13186. Within the Great Basin and the project area, quality riparian habitats and healthy sagebrush communities with inclusions of trees and shrubs are required for healthy neo-tropical migrants' populations. A migratory bird inventory has not been completed for the entire Complex. One point count transect has been set up on and adjacent to aspen habitats within the Stanley Camp Riparian pasture. The habitats sampled within the riparian pasture are not representative of the vast majority of horse habitats within the Complex. Migratory birds observed on the nearby point count transect outside the Complex but in similar environments include: black-throated sparrow, rock wren, sage sparrow, Western meadowlark, horned lark, Say's phoebe, lark sparrow, violet-green swallow, tree swallow, Bullock's oriole, and black-billed magpie. Other possible inhabitants of this habitat include Brewer's blackbird, Brewer's sparrow, burrowing owl, canyon wren, gray flycatcher, green-tailed towhee, loggerhead shrike, sage thrasher, and vesper sparrow (Great Basin Bird Observatory, 2003). The burrowing owl, loggerhead shrike, and vesper sparrow are BLM designated sensitive species and are discussed in section 3.3.3.

3.2.3 Native American Religious Concerns

The proposed action is within the traditional territory of the kamodökadö ("jack-rabbit eaters"), the atsakudöka tuviwarai ("red butte dwellers"), and the aga' ipañinadökadö ("fish lake eaters") or madökadö ("wild onion eaters") bands of Northern Paiute peoples. These bands are identified with modern groups that include the Summit Lake Paiute Tribe, the Fort McDermitt Tribe, the Pyramid Lake Paiute Tribe and the Susanville Indian Rancheria. There are no known traditional cultural properties or sacred sites in the capture areas. However, water sources are considered sacred by Native American tribes and riparian zones, in particular, are rich sources of plants for medicinal and other uses.

3.2.4 Threatened & Endangered Species

A list of federally listed, proposed or candidate species was requested from the U.S. Fish and Wildlife Service for the proposed project area (2009). The Fish and Wildlife Service responded that the following species may be found within the proposed project area: 1) Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*, LCT) as a threatened species, 2) Desert Dace (*Eremichthys across*) as a threatened species, 3) Elongate mud meadows springsnail (*Pyrgulopsis notidicola*) as a candidate species, and 4) Soldier Meadow cinquefoil (*Potentilla basaltica*) as a candidate species. There are no other known Threatened or Endangered Species in the proposed project area.

Lahontan Cutthroat Trout - Several streams within the Proposed Calico Complex Wild Horse Capture Area support existing populations of Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*, LCT). LCT is a federally listed Threatened species since 1975 (Federal Register Vol. 40, p. 29864). Mahogany, Summer Camp, Snow, and Colman creeks exist entirely within the Soldier Meadows Allotment and currently are occupied by LCT. North Fork Battle Creek exists within the Paiute Meadows Allotment and is currently occupied by LCT.

Several streams within the Proposed Calico Complex Wild Horse Capture Area have been identified as priority streams for LCT recovery in the 1995 USFWS LCT Recovery Plan and the 1999 NDOW Species Management Plan for LCT. The streams identified are as follows: Donnelly Creek (Soldier Meadows Allotment); Bartlett and Paiute creeks (Paiute Meadows Allotment); Cottonwood, Granite, Red Mountain, and Rock creeks (Buffalo Hills Allotment). There is currently no known LCT within these streams.

Desert Dace - The hot springs and their outflows to the south and west of the Soldier Meadows Ranch are the only known habitats for the desert dace (*Eremichthys across*). The desert dace has been federally listed as Threatened since 1985 (Federal Register Volume 50, p. 50304,) and is the only member of the genus, *Eremichthys*. At the time of listing, critical habitat was also listed, that encompasses 50 feet on each side of designated thermal springs and their outflow streams (USFWS 1997). The desert dace occupied habitat was fenced off in 2005 and the potential trap/holding sites are outside of the fenced area. For this reason, the proposed activities are judged to have no impact on this species or its habitats and will be dismissed from further analysis.

Elongate mud meadows springsnail – Numerous spring systems exist within the Hot Springs Area of the Soldier Meadows area, which range from cold (near or below mean air temperature), thermal (5-10° C above mean air temperature), or hot (more than 10° C above mean air temperature) (see Sada et al. 2001). Within the SMA several springsnails, which are small (1-8 mm high) mollusks that require high quality water (Sada et al. 2001), have been identified as being unique to the area. The majority of these species are members of the genus *Pyrgulopsis*, with one species belonging to the genus *Fluminicola*. These genera prefer cool, flowing water and gravel substrate (Sada et al. 2001). One species, the elongate mud meadows pryg is listed by the USFWS as a candidate species for protection under the ESA. The primary areas of known springsnail concentrations on public lands occur in the vicinity of the desert dace critical habitats that were fenced to exclude livestock and wild horses in 2005. The proposed action is outside the fenced area for the species, and therefore there is no impact on the springsnail species or its habitats and will be dismissed from further analysis.

Soldier Meadow cinquefoil – *Potentilla basaltica* is an herbaceous perennial plant that grows primarily in the Soldier Meadows area. It is currently listed by the USFWS as a candidate for listing as threatened under the Endangered Species Act (Federal Register Vol. 67, p. 40662). The plant grows from prostrate stems extending from a low basal rosette. Bright yellow flowers occur in loose clusters at the end of the stems. The species blooms from late spring and summer. The species is associated with moist saline/alkaline soils associated with alkali seeps and meadows. The species appears to favor sites with micro-relief in saturated soils to obtain root aeration. Surveys completed by Nachlinger in 1990 and repeated by FWS in 2002 and BLM in 2009 indicate stable to increasing populations. Most potential habitat is occupied, except where vehicle trails cross through small areas of otherwise suitable habitat. The current threats are associated with recreation use of occupied habitat. Basalt cinquefoil also exhibits the ability to colonize previously disturbed areas, including old livestock corrals and the raised rim of hoof prints in wet soils. All documented populations within the project area are outside designated HMAs and within exclosures constructed in part to eliminate wild horse impacts on the species. For this reason, the proposed activities are judged to have no impact on this species or its habitats and will be dismissed from further analysis.

3.2.5 Water Quality (Surface and Ground)

Most of the springs are associated with or located along the stream channels. No water quality data has been collected within the Complex; however, the water quality is expected to be of good quality for these springs and streams. Isolated springs and catchments are expected to have fair to poor water quality with elevated levels of nitrates and fecal coliform in areas of concentrated wild horse use. The Nevada Division of Environmental Protection has not listed any of the water bodies within the allotment on the State of Nevada List of Impaired Water Bodies (Section 303(d) of the Clean Water Act).



Photo 7. Summit Spring, Black Rock Range West HMA, low spring flows, 10/08.



Photo 8. Burnt Spring, heavy riparian utilization, Black Rock Range East HMA, 10/08



Photo 9. Meadow with headcuts and heavy wild horse utilization, Black Rock Range, 10/08.



Photo 10. Little water of poor quality in small dirt catchment, Calico Mountains HMA, 8/08.

3.2.6 Wetlands and Riparian Zones

Riparian areas are limited within the Complex and are generally associated with small streams, springs and seeps. Riparian sites within the Complex have been recently assessed for riparian functionality. The majority of sites are classified as “functioning at risk.” Riparian sites are heavily utilized especially when the water flow is low and water availability is limited during droughts (photo 7). Observations of meadows associated with springs show severe utilization of meadows, residual stubble heights of less than two inches and active erosion of meadow soils due to trampling (photos 8-9). Numerous dirt catchments exist, but water availability is dependent on seasonal water or storm events and water quality degrades with heavy use (photo 10).

3.2.7 Wilderness

The project area includes all or portions of the East Fork High Rock Canyon, High Rock Lake, North Black Rock Range, Pahute Peak, and the Black Rock Desert Wilderness Areas. These wilderness areas were designated by the *Black Rock Desert-High Rock Canyon-Emigrant Trails National Conservation Act of 2000* (Refer to Map 1). The Wilderness Act of 1964 mandates that wilderness areas be administered for the use and enjoyment of the American people in such a manner as would leave them unimpaired for future use and enjoyment as wilderness, and to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness. The Wilderness Act mandates that wilderness areas be managed in such a manner as to maintain or enhance the values of naturalness, opportunities for solitude, opportunities for primitive or unconfined recreation, and any special features found in the areas. Several special features were specifically mentioned for the affected Wilderness Areas in the BRHR NCA Act of 2000. They include; wagon ruts, historic inscriptions, prehistoric and historic Native American sites, large natural potholes, threatened fish and sensitive plants, and a largely untouched emigrant trail viewshed.

3.3 Additional Affected Resources

In addition to the critical elements above, the following resources may be affected by the Action Alternatives (Alternatives 1-2) and/or the No Action Alternative: livestock management,

sensitive and/or special status species, soils, vegetation, wild horses, wildlife, and wilderness study areas.

Table 4: Other Resources Checklist

OTHER RESOURCES	Present	Affected	Rationale
Fisheries	YES	YES	Discussed below.
Rangeland Management	YES	YES	Discussed below.
Special Status Species	YES	YES	Discussed below.
Soils	YES	YES	Soil disturbances would be less than 1 acre in size and trap sites would be located in previously disturbed areas. Discussed further under vegetation.
Vegetation	YES	YES	Discussed below.
Wild Horses	YES	YES	Discussed below.
Wilderness Study Area	YES	YES	Discussed below.
Wildlife	YES	YES	Discussed below.

3.3.1 Fisheries

Several of the streams in the proposed project area currently contain salmonid species. The streams with salmonids that have not been discussed in section 3.2.4 are Bartlett Creek, Granite Creek, and Red Mountain Creek. These streams include a variety of salmonids, including: rainbow trout (*Oncorhynchus mykiss*) and brook trout (*Salvelinus fontinalis*).

3.3.2 Rangeland Management

Buffalo Hills, Leadville, Paiute Meadows, and Soldier Meadows allotments occur within the Complex and are currently permitted for livestock use as identified in Table 2. Livestock use generally occurs between April 1 and October 30, although it may occur throughout the year.

Table 5: Permitted Livestock use in the Calico Mountains Complex

Allotment	Permitted Use	Season of Use
Buffalo Hills	639 Cattle	4/1 – 10/15
Leadville	235 Cattle	5/1 - 10/15
Paiute Meadows	524 Cattle	3/15 – 5/15
	300 Cattle	11/1 – 1/15
Soldier Meadows	800 Cattle	1/16 - 12/15

3.3.3 Soils

The occurrence of bare soil is high with deep soil churning, heavy trailing and active erosion due to the lack of vegetation and hoof actions. The majority of soils in these HMA's were developed under low precipitation with minimal topsoil development. All soil types are subject to water and wind erosion. With the excessive trailing and hoof action this area has the potential of accelerated erosion following intense storms or snow melt. Potential water erosion hazard for the trap sites is slight and potential wind erosion hazard is moderate. Soil surface disturbance due to hoof action and vehicle use would be limited to trap sites.

3.3.4 Special Status Species

Both Threatened and Endangered Species (addressed in 3.2.4) and Sensitive Species (addressed below) are considered Special Status Species. No on-the-ground field investigation was conducted for sensitive/protected plant, or animal species including birds. However, the Nevada Natural Heritage Program (NNHP) database (March, 2008) and the Nevada Department of Wildlife (NDOW) Diversity database (August, 2007) were consulted for the possible presence of endangered, threatened, candidate and/or sensitive plants or animal species. NDOW data show observances of golden eagle, prairie falcon, northern goshawk, and burrowing owl within the Complex. The NNHP database showed no observances of Special Status Species within the Complex.

Sensitive Species

The following designated Bureau of Land Management sensitive animal or plant species are described as they have either been seen in the Complex or the area contains habitat characteristics conducive to these species.

Bats

Several species of bats may occur in this area. Most bats in Nevada are year-round residents. In general terms, bats eat insects and arthropods during the warmer seasons and hibernate in underground structures during the cooler seasons. Bats commonly roost in caves, mines, outcrops, buildings, trees and under bridges. Bats may eat flies, moths, beetles, ants, scorpions, centipedes, grasshoppers, and crickets. Bats thrive where the plant communities are healthy enough to support a large population of prey (Bradley et al 2006).

Burrowing Owl

Burrowing owls are known to occur within this area. Burrowing owls prefer open, arid, treeless landscapes with low vegetation. They are dependent upon burrowing mammal populations for maintenance of nest habitat and choose nesting areas based on burrow availability (Floyd et al

2007). These birds are highly adaptable and readily nest in open disturbed areas such as golf courses, runways, and industrial areas that border suitable habitat (Neel, 1999). Dense stands of grasses and forbs within owl home ranges support populations of rodent and insect prey. Urbanization is the biggest threat to this species as suitable habitat is converted to non-habitat for human use (Floyd et al 2007).

Greater Sage-grouse

Greater sage-grouse is a BLM sensitive species. The Complex contains 103,145 acres of key sage-grouse habitat. Key habitat is designated for those areas that support all the habitat requirements to support sage-grouse populations. Four active leks have been identified within the HMA with two additional leks with historic use. Leks are communal breeding ground for sage-grouse and are commonly considered to be the center of nesting activity. Sage-grouse require large expanses of sagebrush with good under stories of forbs and grasses. Sagebrush provides nesting and hiding cover and forage for much of the year. Forbs provide spring nutrition and grasses provide visual screening for nests. Additionally wet meadows are needed to provide green forbs when other sites dry out, water and insects for the chicks during the hot summer months.

Pygmy Rabbit

In the Great Basin, the pygmy rabbit is typically restricted to the stands of tall sagebrush on deep loamy soils. There has been no inventory for pygmy rabbits in this area so their presence is unknown. Surveys have been completed to the north and west of the Complex during 2005 and 2006. No rabbits or signs of their occupation were observed (Larrucea, 2007).

Raptors

Golden eagle, prairie falcon, and northern goshawk have been observed in the Complex. Golden eagles are primarily cliff nesters and would utilize the area to forage for prey species such as jackrabbits and other small mammals. Golden eagles are protected under the Bald and Golden Eagle Protection Act. Nevada's Golden eagle population is thought to be stable to increasing. They are widespread and frequently encountered (Floyd et al 2007).

The prairie falcon may be found foraging in sagebrush habitats that have cliffs in close proximity for nesting. They prey on small mammals and birds, especially horned lark. Populations experienced declines in the 60's and 70's but appear to be stable now in the West (Paige and Ritter 1999).

The Northern goshawk is a forest hawk inhabiting coniferous and aspen forests. One sighting was reported in the Complex in the month of October. This individual would have been migrating to a winter area and not occupying the area for any length of time. No nesting, breeding, or foraging habitat exists within the Complex.

Vesper Sparrow

The vesper sparrow may be found in this area since it typically inhabits sagebrush-grass vegetative communities at the higher elevations. The vesper sparrow forages on the ground and eats mostly seeds from grasses and forbs and will also eat insects when they are available. The vesper sparrow responds negatively to heavy grazing in sagebrush/grasslands. In these habitats, it

benefits from open areas with scattered shrubs and a cover of good bunchgrasses for nest concealment, since it is a ground nester (Paige and Ritter 1999).

Basalt cinquefoil

Basalt cinquefoil, a BLM sensitive species, is found around the hot springs located in the Soldier Meadows allotment near the ranch headquarters, but outside of any HMA.

3.3.5 Vegetation

Vegetation varies from salt desert shrub communities at lower elevations to big sagebrush/bunch grass communities at higher elevations. Typical species at lower elevations include shadscale, bud sage, winterfat, black greasewood, squirreltail, and Sandberg's bluegrass. Species typical in higher elevations include low sage, Lahontan sagebrush, Wyoming big sagebrush, mountain big sagebrush, bitterbrush, rabbitbrush, Utah juniper, needlegrass, blue bunch wheatgrass, basin wildrye, squirreltail, Indian paintbrush, and phlox.

Site visits were conducted in late August and mid-November. Where grasses are accessible, utilization is estimated between 40 to 90 percent throughout the HMA with the majority of plants showing utilization of 60-80% (photo 7). There is evidence of horses traversing extremely rocky slopes in search of grasses. Much of the bitterbrush and other palatable browse species throughout the HMA, but especially in areas near waters, are decadent (photo 8) or dead (some known moth kill) and other plants show low production and moderate to heavy hedging, with the majority of plants and leaders browsed.



Photo 11. Heavy utilization, basin wildrye, 8/08.



Photo 12. Decadent browse species, 8/08.

Utilization of new plant growth on the area burned (about 1,000 acres) by the Tin Canyon Fire in 2002 is heavy to severe (photos 9-10)



Photo 13. Burned/unburned vegetation and bare soil contrast, 8/08.



Photo 14. Wild rose growing through deep churned soils in burn area, 8/08.

3.3.6 Wild Horses

Historical evidence indicates that the American westward expansion of explorers, settlers, cavalry, miners, farmers, and ranchers in the mid-1800s was the source of present day wild horses and burros in this area. The vast number of settlers entering the Great Basin, especially livestock operators, caused many changes to the native cold desert environment including water developments, supplemental livestock feeding, and farm crops. This enhanced the basic habitat elements for horse survival. Loss of stock, abandonment, and intentional horse breeding all contributed to the establishment of mustangs in this area.

The Complex is managed for an AML range of 572-952 wild horses and 14-24 burros. The current estimated population of 3,095 wild horses is based on modeling and confirmed by recent aerial census. Direct observation counts from the flight were projected using historic annual growth rates for each HMA (20-27%) and include this year's foal crop. The current population is about 5.5 times the low range of the AML (572 head) or about three times over the carrying capacity or high range AML of 952 head.

Table 6 displays the estimated wild horse and burro populations by HMA and the AML range for each HMA. The population estimate is based on population modeling and confirmed with a 2009 helicopter census. The estimate for burros is based on ground and aerial observations.

Recent monitoring studies and observations in the Calico Complex indicate that moderate and heavy utilization has occurred in the upland habitats and in many lentic and lotic riparian areas (studies available for review at the Winnemucca Field Office). This along with the continued drought confirms the established management range for the wild horse and burro population in the Calico Complex is still appropriate.

Table 6: Estimated Horse and Burro Populations

HMA	Wild Horses			Burros		
	AML Range	Est'd Pop.	Remove No.	AML Range	Est'd Pop.	Remove No.
Black Rock Range East	56-93	325	269	--	0	0
Black Rock Range West	56-93	644	580	--	0	0
Calico Mountains	200-333	812	612	--	0	0
Granite Range	155-258	440	285	--	0	0
Warm Spring Canyon	105-175	874	769	14-24	29	0
Total	572-952	3,095	2,515	14-24	29	0

Since then, the AML has been adjusted based on in-depth analysis of habitat suitability and monitoring data through Decision Records/Finding of No Significant Impacts (FONSI) and accompanying EAs. The HMA is managed for an AML range from 188 to 314. The current population is estimated at 3,095 head (over five times the low range AML).

Horses are descendants of ranch horses and cavalry remounts. Based on 2005 capture data, horses exhibit bay (61%), sorrel (18%), brown (8%), or black (8%) coat colors. It is uncommon to find buckskins, palominos, roans, pintos, duns, or excessive white markings. Observed phenotypes are fairly consistent and are of Morgan-type. Genetic sampling in 2002 suggests close genetic similarity to domestic horse breeds including, Tennessee Walker, American Saddlebred, Morgan, and Standardbred. Genetic diversity indicators are good. The last capture sex ratio was 54% mares and 46% studs which falls in the normal range. Approximately 60% of the herd was 0-5 years old, 23% were 6-9 years old, and 17% were 10 years and older which is typical of a normal age structure.

Numerous studies identify dietary overlap of preferred forage species and habitat preference between horses, cattle, and wildlife species in the Great Basin ecosystems for all seasons (Ganskopp 1983; Ganskopp et al 1986, 1987; McInnis 1984; McInnis et al 1987; Smith 1986a, 1986b; Smith et al 1982; Vavra et al 1978). A strong potential exists for exploitative competition between horses and cattle under conditions of limited forage (water, and space) availability (McInnis et al 1987). Wild horses compete with wildlife species for various habitat components, especially when populations exceed AML and/or habitat resources become limited (i.e., reduced water flows, low forage production, dry conditions, etc.).

3.3.7 Wilderness Study Areas

The designation of the Lahontan Cutthroat Trout Natural Area resulted in the area receiving Instant Study Area (ISA) status, which affords the same management as a Wilderness Study Area (WSA). Section 603 (c) of FLPMA directs how the BLM is to manage "lands under

wilderness review,” which includes WSAs. These lands are to be managed in a manner so as not to impair the suitability of such areas for preservation as wilderness. Consequently, actions proposed within WSAs are to be evaluated on the basis of their possible direct and indirect impacts on the untrammeled character of the area and wilderness values of naturalness, solitude and primitive or unconfined recreation, and special features. Bureau policy (H-8550-1.III.E) directs that wild horse and burro populations must be managed at appropriate management levels within wilderness study areas. All temporary trap sites and/or holding corrals fall outside these WSA boundaries. Any additional trap sites would be located outside WSA boundaries or on identified roads (ways) within WSAs.

3.3.8 Wildlife

Terrestrial wildlife resources in the Complex are typical of the Northern Great Basin. A wide variety of wildlife species common to the Great Basin ecosystem can be found here. The vegetation could be categorized into the two broad vegetative types – juniper and sagebrush/salt desert scrub. Common wildlife species include coyote, black-tail jackrabbit, desert cottontail, bobcat, and numerous raptors, reptiles, and other small mammal species. Mule deer and pronghorn antelope are common big game species in the area.

Bighorn Sheep

Bighorn sheep habitat occurs throughout the Complex. Topography is the primary source of cover for bighorns. Steep broken escarpments (60% plus slope) or rock outcrops at least five acres in size with transversable terraces is optimum. Bighorn sheep are adaptable foragers but three characteristics are common to quality forage: abundance, continuous distribution, and low stature. Grassers have high importance but mixed with forbs and/or shrubs are optimum. Potential Natural Community (PNC) or climax community is optimum with early seral stage the poorest. Also, no fences are an optimum condition for bighorns. For improving and maintaining the habitat for bighorns the sagebrush/bunchgrass communities, wet meadows, and riparian areas for PNC seral stage adjacent to rock outcrops and rimrock is optimum.

Mule Deer

The Complex contains 110,826 acres of mule deer habitat. Most of the habitat is classified as yearlong habitat, with a little over 1,000 acres considered crucial winter habitat. Deer are generally classified as browsers, with shrubs and forbs making up the bulk of their annual diet. The diet of mule deer is quite varied; however, the importance of various classes of forage plants varies by season. In winter, especially when grasses and forbs are covered with snow, their entire diet may consist of shrubby species.

Pronghorn Antelope

The Complex contains 118,555 acres of pronghorn antelope habitat. About 39% of this area is considered as crucial winter range, where antelope concentrate on winters with heavy snow accumulations. Pronghorn use open country with few trees and short shrubs. This is the same habitat that wild horses prefer. Antelope diets consist of forbs and grasses during the spring and early summer and shrub browse the remainder of the year.

4.0 ENVIRONMENTAL CONSEQUENCES

Direct impacts and indirect impacts regarding Alternatives 1-2 (Action Alternatives) and Alternative 3 (No Action) are discussed in each resource section (alphabetically) below.

4.1 Cultural Resources

Impacts Common to the Action Alternatives (1-2)

Direct impacts to cultural resources are not anticipated because gather sites and temporary holding facilities would be placed in previously disturbed areas or inventoried for cultural resources prior to construction. If cultural resources are encountered, these locations would not be utilized unless they could be modified to avoid impacts to cultural resources.

Areas in the vicinity of permanent and intermittent water sources (i.e., riparian areas) have the highest potential for cultural resource sites. Since wild horses and burros concentrate in these areas, these areas are most likely to be impacted by trampling and erosion. Indirect impacts to cultural resources would be reduced in riparian zones where concentrations of horses can lead to modification and displacement of artifacts and features as well as erosion of organic middens containing valuable information.

Alternative 3. No Action. Defer Gather and Removal.

There would be no direct impacts under this alternative. However indirect impacts described above may increase as wild horse populations continue to increase and concentrate.

4.2 Migratory Birds

Impacts Common to Action Alternatives (1-2)

The project area contains riparian and sagebrush habitats, therefore potential impacts to neotropical migrants may be expected. The action alternatives would not directly impact migratory bird populations. The gather would occur when migratory species are not within the HMA. Small areas of migratory bird habitat would be impacted by trampling at trap sites and holding facilities. This impact would be minimal (generally less than 0.5 acre/trap site), temporary, and short-term (two weeks or less) in nature. Indirect impacts would be related to wild horse densities and patterns of use. Reduction of current wild horse populations would provide opportunity for vegetative communities to progress toward achieving a thriving natural ecological balance. The action alternatives would result in an impact to migratory bird habitat by supporting a more diverse vegetative composition and structure through improvement and maintenance of healthy populations of native perennial plants. These improvements would benefit migratory bird species including loggerhead shrikes, vesper sparrows, burrowing owls and migratory and resident raptor species. According to Paige and Ritter (1999), "Long-term heavy grazing may ultimately reduce prey habitat and degrade the vegetation structure for nesting and roosting. Light to moderate grazing may provide open foraging habitat."

Alternative 3. No Action: Defer Gather & Removal

No direct impacts. Indirect impacts would be the increasing inability of rangelands to support healthy populations of native perennial plants. Indirect impacts to vegetative communities

would increase each year that a gather is postponed which would impact migratory bird species and their habitats.

4.3 Native American Religious Concerns

Impacts Common to Action Alternatives (1-2)

No direct impacts to areas of Native American concern would occur because trap sites and holding areas would be placed in previously disturbed areas and/or in areas where there are no known Native American concerns. Indirect impacts to plants in riparian zones used by Native Americans for medicinal and other purposes would be reduced.

Alternative 3. No Action: Defer Gather & Removal

There would be no direct impacts under this alternative. There would be indirect impacts to areas of Native American concern in riparian zones where concentrations of horses could impact plants utilized by Native Americans for medicinal and other purposes.

4.4 Threatened & Endangered Species

Impacts Common to Action Alternatives (1-2)

Direct impacts to Lahontan cutthroat trout would be minimal, due to the short term duration of the wild horse gather and the minimal occupied and recovery habitat that could be crossed by the gathering. Impacts could be upon the streambanks of occupied or recovery streams as the wild horses cross streams when they are herded by helicopter to the temporary gather sites. Direct impacts would be lessened by the gather taking place during the winter. Indirect impacts would be beneficial with the reduction of the wild horse herd size, which would reduce the long-term impacts of streambank trampling to the occupied and recovery LCT habitat.

Alternative 3. No Action: Defer Gather & Removal

For the No Action Alternative, there would be no direct impacts upon LCT. Indirect impacts from the No Action would be related to the wild horse population size. The population expectation without a gather shows that it would produce the largest number with the wild horse population. This larger population would negatively impact LCT in occupied and recovery streams with streambank trampling, increased sedimentation, reduced vegetation cover, and overall reduced riparian/stream habitat condition.

4.5 Water Quality (Surface and Ground)

Impacts Common to Action Alternatives (1-2)

Direct impacts to water quality occur when wild horses cross streams or springs as they are herded to temporary gather sites. This impact would be temporary and relatively short-term in nature. Indirect impacts would be related to wild horse population size. Reduction of wild horse populations from current levels would decrease competition for available water which should lead to a reduction in hoof action (sediment), nitrates, and fecal coliform in surface waters. This action would have no impact on ground water quality.

Alternative 3. No Action: Defer Gather & Removal

No direct impacts. Indirect impacts would be increasing degradation to water quality as wild horse populations increase each year that a gather is postponed.

4.6 Wetlands and Riparian Zones

Impacts Common to Action Alternatives (1-2)

Direct impacts to wetlands or riparian zones occur when wild horses cross wetland or riparian zones as they are herded to temporary gather sites. This impact would be temporary and relatively short-term in nature. Indirect impacts would be related to wild horse population size. Reduction of wild horse populations from current levels would decrease hoof action around unimproved springs, improve stream bank stability, and improved riparian habitat condition due to decreased utilization of riparian plants.

Alternative 3. No Action: Defer Gather & Removal

No direct impacts. Indirect impacts would be increasing degradation to riparian habitats as wild horse populations increase each year that a gather is postponed.

4.7 Wilderness

Impacts Common to Action Alternatives (1-2)

In the short-term, the sight and noise of helicopters would be noticeable throughout the wilderness during the gather and would reduce opportunities for solitude. However, conducting the gather during the winter months when visitation is least would minimize these effects to the extent possible. Over the long-term, the gather would indirectly decrease trampling, trailing, hedging, and forage utilization of native grasses thereby maintaining vegetative cover and natural conditions.

As identified in Chapter 2 under Management Actions Common to Alternatives 1-2, no motorized vehicles would be used in Wilderness in association with the gather operation unless such use is consistent with the minimum requirements for management of Wilderness and is preapproved by the authorized officer. A Minimum Requirement/Tool analysis was conducted for the proposed action. The worksheet can be found in Appendix E of this document.

Alternative 3. No Action: Defer Gather & Removal

The deferred gather under the No Action Alternative would result in the impacts described under the sections above. These impacts represent continued and increasing degradation of natural conditions and are inconsistent with current policy for the management of wild horse and burro populations within wilderness areas. Because this alternative would defer the gather until a later date, the long-term impacts to the areas untrammelled character would continue to occur.

4.8 Fisheries

Impacts Common to Action Alternatives (1-2)

Direct impacts on fisheries would be minimal, due to the short term duration of the wild horse gather and the minimal fisheries habitat that would be crossed by the gathering. Impacts could be upon the streambanks of some streams as the wild horses cross streams when they are herded

by helicopter to the temporary gather sites. Direct impacts would be lessened by the gather taking place during the fall, during low flow on streams. Indirect impacts would be beneficial with the reduction of the wild horse herd size, which would reduce the long-term impacts of streambank trampling to the fisheries habitat.

Alternative 3. No Action: Defer Gather & Removal

With the No Action Alternative, there would be no direct impacts on fisheries. Indirect impacts would be related to the wild horse population size. The population expectation shows that this alternative would produce the largest number with the wild horse population. This larger population would negatively impact fisheries through streambank trampling, increased sedimentation, reduced vegetation (herbaceous and woody) cover, and overall reduced riparian/stream habitat condition.

4.9 Range Management

Impacts Common to Action Alternatives (1-2)

There could be a short term direct impact to livestock due to gather activities by disturbing and disbursing livestock. The indirect impacts would be an increase in the forage availability and quality, reduced competition for water and forage, and improved vegetative resources that would lead to a thriving ecological condition.

Alternative 2. No Action: Defer Gather & Removal

There would be no direct impacts of this alternative to the livestock operators or livestock operation. The indirect impacts would be continued resource deterioration resulting from competition between wild horses and livestock for water and forage, reduced quantity and quality forage, and undue hardship on the livestock operators through a lack of livestock forage on public lands.

4.10 Soils

Impacts Common to Action Alternatives (1-2)

Direct impacts associated with the action alternatives would consist of disturbance to soil surfaces immediately in and around the temporary gather site(s) and holding facilities. Impacts would be created by vehicle traffic and hoof action as a result of concentrating horses, and could be locally high in the immediate vicinity of the gather site(s) and holding facilities. Generally, these sites would be small (less than one half acre) in size. Any impacts would remain site specific and isolated in nature. Impacts would be minimal as herding would have a short-term duration.

In addition, most gather sites and holding facilities would be selected to enable easy access by transportation vehicles and logistical support equipment. Normally, they are located near or on roads, pullouts, water haul sites or other flat areas, which have been previously disturbed. These common practices would minimize the long-term effects of these impacts.

Implementation of the action alternatives would reduce the current wild horse population. Reduced concentrations of wild horses would contribute to reducing soil erosion.

Alternative 3. No Action: Defer Gather & Removal

No direct impacts are expected under this alternative. Soil loss from wind and water erosion, and invasion of undesired plant species would occur.

4.11 Special Status Species

Impacts Common to Action Alternatives (1-2)

In addition to impacts discussed for migratory bird species in section 4.2, direct impacts would consist primarily of disturbance and displacement to wildlife by the low-flying helicopter and construction of temporary trap/holding facilities. Typically, the natural survival instinct to this type of disturbance is to flee from the perceived danger. These impacts would be minimal, temporary, and of short duration. There is a slight possibility that non-mobile or site-specific animals would be trampled. Indirect impacts would be related to wild horse densities. A reduction in the number of wild horses from current levels would decrease competition for available cover, space, forage, inter-specific stress and competition, and water. Wild horses often display dominant behavior over wildlife species and livestock at water sites forcing animals to wait or go elsewhere for water. A reduction in forage utilization levels and hoof action would improve stream bank stability and riparian habitat condition which would increase insect production required by foraging bats and summering sage-grouse. Reduced utilization levels should produce increased plant vigor, seed production, seedling establishment, and ecological health of the habitat. Resident populations of mule deer and pronghorn antelope would benefit from an increase in forage availability, vegetation density and structure.

Alternatives 1 and 2 alternatives would result in reduced competition with wildlife which would increase the quantity and quality of available forage. There would be fewer disturbances associated with wild horses along stream and riparian habitats and adjacent upland habitats.

Alternative 3. No Action: Defer Gather & Removal

Maintaining the status quo of the wild horse population would negatively impact sensitive species, and other wildlife species and their habitats and would be of greater impact than the Proposed Action. Repeated utilization of key grass, forb, and shrub species; during the peak growing season, may not allow proper plant health. Over time, this may result in diminished habitat quality.

No direct impacts are expected under this alternative. Indirect impacts include increased competition between wild horse and wildlife species and also diminished habitat conditions. Wild horse populations would increase (about 20%) each year that the gather is postponed, which would impact ecological conditions, wildlife populations, and other resource values.

4.12 Vegetation

Impacts Common to Action Alternatives (1-2)

Direct impacts associated with the action alternatives would consist of disturbance to vegetation immediately in and around the temporary gather site(s) and holding facilities. Impacts would be created by vehicle traffic and hoof action as a result of concentrating horses, and could be locally high in the immediate vicinity of the gather site(s) and holding facilities. Generally, these sites

would be small (less than one half acre) in size. Any impacts would remain site specific and isolated in nature. These impacts would include trampling of vegetation. Impacts would be minimal as herding would have a short-term duration.

In addition, most gather sites and holding facilities would be selected to enable easy access by transportation vehicles and logistical support equipment. Normally, they are located near or on roads, pullouts, water haul sites or other flat areas, which have been previously disturbed. These common practices would minimize the long-term effects of these impacts.

Implementation of the action alternatives would reduce the current wild horse population and provide the opportunity for the vegetative communities to progress toward achieving a thriving natural ecological balance. Reduced concentrations of wild horses would contribute to the recovery of the vegetative resource. Utilization levels by wild horses would be reduced, which would result in improved forage availability, vegetation density, increased vegetation cover, increased plant vigor, seed production, seedling establishment, and forage production over current conditions. Higher quality forage species (grasses) would be available. Individual wild horse condition and health would improve due to less competition for available resources.

Alternative 3. No Action: Defer Gather & Removal

No direct impacts are expected under this alternative. Indirect impacts include increased competition for forage among multiple-uses as wild horse populations continue to increase. Forage utilization would exceed the capacity of the range resulting in a loss of desired forage species from plant communities as plant health and watershed conditions deteriorate. Abundance and long-term production potential of desired plant communities may be compromised.

Indirect impacts would be increasing degradation to riparian vegetation as wild horse populations increase each year that a gather is postponed.

4.13 Wild Horses

Impacts from Action Alternatives (1-2)

The direct impacts of the Proposed Action would involve the capture 2,476-2,523 excess animals of the estimated 3,095 wild horses estimated in the Complex. This would achieve a remaining population within the AML range and protect rangeland resources from the deterioration associated with the current overpopulation of wild horses. If the gather efficiency is sufficient (i.e., more than 2,523 horses are gathered), fertility control and adjustment of the sex ratio to favor males through the selection of release horses would be applied to decrease the annual population growth.

Population modeling (Appendix C-Graph 1) shows that at 80% gather efficiency (i.e., 80% of the estimated population of 3,095 or 2,476 horses gathered) not enough wild horses could be gathered to implement fertility control or release horses back into the herds and achieve the low range AML. However, if the gather efficiency is 90% (i.e., 90% of the estimated population of 3,095 or 2,787 horses gathered), then some selective removal and fertility treatment could occur (Appendix C-Graph 2) and the low range AML be achieved. The gather would also benefit the health of wild horses remaining in the Complex by reducing competition for forage and water.

Implementation of the Proposed Action is needed at this time to prevent deterioration of animal health and reduce impacts to rangeland and wildlife resources from overgrazing by wild horses. This gather would reduce the current wild horse population to the established appropriate management levels to protect horse health and sustainability, support significant progress toward achievement of the Sierra Front-Northwest Great Basin Standards for Rangeland Health; and, move toward a thriving natural ecological balance between wild horse populations, wildlife, vegetation, riparian-wetland resources, water resources, and domestic livestock.

Alternative 3. No Action: Defer Gather & Removal

The indirect impacts of not removing excess wild horses would affect current and future herd population numbers. The current population estimate is 3,095 head. Populations would continue to grow annually by about 20-24 percent. Without a gather and removal now, the wild horse population in this portion of the HMA would exceed 7,000 head within four years based on population annual growth rate.

Wild horses often graze the same area repeatedly throughout the year. Forage plants in those areas receive little rest from grazing pressure. Continuous grazing does not allow plants sufficient time to recover from grazing impacts, resulting in reduced plant health, vigor, reproduction, and ultimately to a loss of native perennial forage species from natural plant communities. Few resources would be available for wildlife and livestock. Horses may move outside the established HMAs in search of habitat as demands on resources within the HMAs increase.

Indirect impacts may include high horse mortality rates, thin body conditions, and poor health as habitat resources are diminished by increasing horse populations. Older and younger age classes and lactating mares would be most affected by nutritional deficiencies and stress. Skewed sex ratios, undesirable age distributions, and social disruption may result as herd members compete for available resources. Nutritional deficiencies would negatively affect growing animals and may limit their potential growth. Parasites and disease would increase as population densities continue to increase.

4.14 Wilderness Study Areas

Impacts Common to Action Alternatives (1-2)

In the short-term, the sight and noise of helicopters would be noticeable throughout the wilderness or wilderness study area during the gather and would reduce opportunities for solitude. However, conducting the gather during the winter months when visitation is least would minimize these effects to the extent possible. Over the long-term, the gather would indirectly decrease trampling, trailing, hedging, and forage utilization of native grasses thereby maintaining vegetative cover and natural conditions. We do not anticipate any of the actions proposed under the Action Alternatives would impair the suitability of the Lahanton Cutthroat Trout Instant Study Area for preservation as wilderness, should Congress decide to designate the area as such in the future.

As identified in Chapter 2 under Management Actions Common to Alternatives 1-2, no motorized vehicles would be used in Wilderness Study Area in association with the gather

operation unless such use is consistent with the minimum requirements for management of wilderness study areas and is preapproved by the authorized officer. A Minimum Requirement/Tool analysis was conducted for the proposed action. The worksheet can be found in Appendix E of this document.

Alternative 3. No Action: Defer Gather & Removal

The deferred gather under the No Action Alternative would result in the impacts described under the sections above. These impacts represent continued and increasing degradation of natural conditions and are inconsistent with current policy for the management of wild horse and burro populations within wilderness study areas. Because this alternative would defer the gather until a later date, the long-term impacts to the areas untrammelled character would continue to occur.

4.15 Wildlife

Impacts Common to Action Alternatives (1-2)

Potential impacts to wildlife from Alternatives 1 – 2 are the same as those described under Special Status Species (Section 4.11) above.

Alternative 3. No Action: Defer Gather & Removal

Potential impacts to wildlife from Alternatives 3 are the same as those described under Special Status Species (Section 4.11) above.

5.0 CUMULATIVE IMPACTS

The NEPA regulations define cumulative impacts as impacts on the environment that result from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency, federal or non federal or person undertakes such other actions (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

For the purpose of this cumulative analysis, the cumulative area is the Calico Complex and a small portion of lands immediately adjacent. The potential cumulative impacts are directly related to wild horse populations and their cumulative impacts on vegetation quantity and quality. Therefore, the past, present and reasonable future actions presented below concentrates on wild horses and vegetation information for the cumulative assessment area.

5.1 Wild Horses

Past

Applicable Herd Use Area within the Complex were designated in 1982 by the Sonoma-Gerlach and Paradise-Denio Resource Area Management Framework Plans (MFP) Record of Decisions (ROD), approved on July 9th, 1982 as Herd Management Areas suitable for the long-term management of wild horses.

Nine gathers have occurred with a total of 9,148 wild horses removed and 1,884 released back into the Calico Complex. The earliest BLM gather in this Complex took place in 1979, while the last gather occurred in 2005. One notable removal, 1988, corresponded with a loss of wild

horses in the field due to overpopulation, lack of forages and winter conditions. Past gathers and movement of wild horses from nearby HMAs have led to the representation of age and sex classes and the degree of genetic diversity evident in the herd today.

Present

Currently, management of HMAs within the Complex and wild horse population is guided by the July 1982 *Sonoma-Gerlach and Paradise-Denio Resource Area Management Framework Plans* (MFP) Record of Decisions (ROD), the July 2004 ROD for the *Black Rock Desert High Rock Canyon Emigrant Trails NCA Resource Management Plan* and associated Final Multiple-Use Decision (FMUD) as identified in Table 1 (Section 1.4).

Reasonable Foreseeable Future Actions

Future wild horse gathers would be conducted about every 3-4 years over the next 10 year period in order to continue to manage the HMA within the established AML. As displayed in the population graphs in Appendix C, the population would reach the high limit of AML in about 2012 or 2013 under Alternative 1, the Proposed Action, three years under Alternative 2. Additional gathers would be needed to remove excess wild horses on a three to four year gather cycle in order to maintain populations within the AML range. Fertility control may also be applied in future gathers in an effort to slow population growth. Cumulatively over the next 5-15 years, these actions should result in fewer gathers and less frequent disturbance to individual wild horses and the herd's social structure. Individual and herd health would be maintained. However, return of wild horses back into the HMA may lead to the decreased ability to gather horses in the future as released horses learn to evade the helicopter.

Under the No Action alternative, the wild horse population would quickly exceed 5,000 head. A number of emergency removals could be expected in order to prevent individual animals from suffering or death due to lack of forage and water. Increased stress and disturbance to the herd's social structure would be expected, habitat resources would be over-utilized, and progress toward rangeland health standards would not be met.

Any future proposed projects within these HMAs would be analyzed in an appropriate environmental document following site specific planning. Future project planning would also include public involvement.

5.2 Vegetation

Past

Forage utilization during the 1900's was high when thousands of cattle, sheep, and horses grazed lands in northern Nevada. In the 1930s when overgrazing threatened to reduce Western rangelands to a dust bowl, Congress approved the Taylor Grazing Act (TGA) of 1934, which for the first time regulated grazing on public lands. The TGA required ranchers who grazed horses or livestock on public lands to have a permit and to pay a grazing fee, but by that time, thousands of horses roamed the Nevada desert unbranded and unclaimed.

Prior to the Taylor Grazing Act grazing practices contributed to significantly impacting the soil resource. The soil tolerance was exceeded and the soil medium for plant growth was not maintained. Prior to the Taylor Grazing Act livestock grazing activities had significant impacts

to the vegetation resources within the impact assessment area by eliminating or greatly reducing the primary understory plants. Cheat grass was introduced into the area in the early 1900s.

Prior to the Taylor Grazing Act grazing practices significantly impacted wetland and riparian zones. Wetland and riparian zones declined, riparian vegetation was insufficient to dissipate energy and filter sediment increasing erosion and destabilizing stream banks and meadows. Destabilization of streams and meadows resulted in incised channels and gullies resulting in lowered water table. In order to support and distribute livestock, a variety of range improvement projects have been implemented through the years dating back to the 1930s.

Past livestock grazing decisions have resulted in adjustments of livestock numbers and seasons of use for the livestock grazing allotments.

Present

While the present livestock grazing system and efforts to manage the wild horse population within the AML has reduced past historic soil impacts and improved current soil resource conditions, the current overpopulation of wild horses is continuing to contribute to heavy utilization of the available forage, resulting in trailing and trampling damage, and is slowing potential vegetation recovery. Managing wild horse populations within the established AML would allow the primary forage plant species to return more rapidly even though vegetation conditions may never be able to return to their potential.

Reasonable Foreseeable Future Actions

Livestock grazing is expected to continue at similar stocking rates. Cumulatively over the next 5-15 year period, continuing to manage wild horses within the established AML range would result in improved vegetation condition (i.e. forage availability and quantity), which in turn would positively impact vegetation and other habitat resources.

Under the No Action alternative, the wild horse population would exceed 1,500 head in about two years. Heavy utilization of available forage and insufficient water would be expected. Allowing the wild horse population to continue to grow beyond this number would be likely to result in a population crash at some point during the next decade. At this point, wild horses, wildlife and livestock would not have available forage or water. All animals would experience suffering and possible death. Ecological communities and habitat resources would not be sustainable. Rangeland health would degrade, possibly below biological thresholds, making recovery unlikely if not impossible as cheat grass, medusa head, and other annuals could dominate the understory degrading ecological conditions.

5.3 Cumulative Impacts (For all affected resources analyzed in Chapter 4)

Impacts Common to Action Alternatives (1-2)

This combination of the past, present and reasonably foreseeable future actions, along with implementation of any of the action alternatives, should result in more stable wild horse populations, healthier rangelands, healthier wild horses, and fewer multiple use conflicts within the cumulative area over the short and long-term.

Cumulative effects from the action alternatives would include continued improvement of upland and riparian vegetation conditions, which would in turn positively impact permitted livestock, native wildlife, and wild horses populations as forage (habitat) quantity and quality is improved over the current level. Benefits from reduced wild horse populations would include fewer animals competing for limited water quantity and at limited sites.

Alternative 3. No Action: Defer Gather & Removal

Cumulative impacts would result in foregoing an opportunity to improve rangeland health and to properly manage wild horses in balance with the available water and forage. Over-utilization of vegetation and other habitat resources would occur as wild horse populations continued to increase. Wild horse populations would be expected to crash at some ecological threshold, however wild horse, livestock, and wildlife would all experience suffering and possible death as rangeland resources continued to degrade. Attainment of RMP/FMUD objectives and Standards for Rangeland Health and Wild Horse and Burro Populations would not be achieved.

6.0 MONITORING and MITIGATION MEASURES

Monitoring

The BLM Contracting Officer Representative (COR) and Project Inspectors (PIs) assigned to the gather would be responsible for insuring contract personnel abide by contract specifications and SOPs. Ongoing rangeland, riparian, and wild horse monitoring would continue, including periodic aerial population survey counts.

Should the Proposed Action gather efficiency exceed 80% and wild horses are released:

- ❑ fertility control monitoring would be conducted in accordance with the SOP's outlined in Appendix B; and,
- ❑ monitoring the herd's social behavior would be incorporated into routine monitoring.

The objective of this additional monitoring would be to determine if additional studs form bachelor bands or are more aggressive in competing with breeding bands for forage and water than at present.

7.0 CONSULTATION AND COORDINATION

Public hearings are held annually on a state-wide basis regarding the use of helicopters and motorized vehicles to capture wild horses (or burros). During these meetings, the public is given the opportunity to present new information and to voice any concerns regarding the use of these methods to capture wild horses (or burros). The Nevada BLM State Office held a meeting on May 20, 2009; several written comments were entered into the record for this hearing. Specific concerns included: (1) the use of helicopters and motorized vehicles is inhumane and results in injury or death to significant numbers of wild horses and burros; (2) inventory methods using helicopters and fixed wing aircraft; (3) reported reproduction and mortality rates; (4) providing the public with pertinent information regarding gather plans at site-specific locations; (5) statistics or statements relating to impacts of helicopter driving, distances, terrain, etc. on wild burro herds; (6) studies on impacts to wild horses and burros on the use of helicopters and helicopter driving during gather. Standard Operating Procedures were reviewed in response to these concerns and no changes to the SOPs were indicated based on this review.

Since 2004, BLM Nevada has gathered just over 26,000 excess animals. Of these, mortality has averaged only 0.5% which is very low when handling wild animals. Another 0.6% of the animals captured were humanely euthanized due to pre-existing conditions and in accordance with BLM policy. This data affirms that the use of helicopters and motorized vehicles has proven to be a safe, humane, effective and practical means for the gather and removal of excess wild horses and burros from the range. BLM also avoids gathering wild horses prior to or during the peak foaling season and does not conduct helicopter removals of wild horses during March 1 through June 30.

Consultation between the BLM, State of Nevada Commission for the Preservation of Wild Horses and the Sierra Club was conducted in November 2008. These groups toured the area proposed for the gather and jointly concurred that the gather was needed. The conclusion of the group was that the gather was needed to protect the natural resources as well as the wild horses.

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Map 1. Calico Complex Wild Horse Capture Area